

## CLAIMS:

1. Method for differential diagnosis of autoimmune diseases of the GSE-type or associated with gluten sensitive enteropathy comprising taking a sample and testing the sample for antibodies against human tissue transglutaminase and at least one other transglutaminase molecule selected from FXIIIA, TG<sub>k</sub>, TG<sub>x</sub>, TGe and Band 4.2.
2. Method as claimed in claim 1, wherein the autoimmune disease is dermatitis herpetiformis, morbus Duhring.
3. Method as claimed in claim 1, wherein the autoimmune disease is selected from Addison's disease, AI haemolytic anaemia, AI thrombocytopenic purpura, AI thyroid diseases, atrophic gastritis - pernicious anaemia, Crohn's disease, colitis ulcerosa, Goodpasture syndrome, IgA nephropathy or IgA glomerulonephritis, myasthenia gravis, partial lipodystrophy, polymyositis, primary biliary cirrhosis, primary sclerosing cholangitis, progressive systemic sclerosis, recurrent pericarditis, relapsing polychondritis, rheumatoid arthritis, rheumatism, sarcoidosis, Sjögren's syndrome, SLE, splenic atrophy, type I (insulin-dependent) diabetes mellitus, diabetes mellitus of other types, Wegener granulomatosis, ulcerative colitis, vasculitis (both systemic and cutaneous), vitiligo.
4. Method as claimed in claim 1, wherein the autoimmune disease is associated with infertility, increased risk of abortion, reduced fetal growth.
5. Comparative protein binding assay for differential diagnosis of autoimmune diseases comprising the

detection of antibodies against transglutaminase, characterised in that the protein binding assay comprises at least two different transglutaminase antigens selected from tissue transglutaminase (TGc), TGk, TGe, TGx, FXIIIA and Band 4.2

6. Comparative protein binding assay as claimed in claim 5, comprising transglutaminase from different species.
7. Comparative protein binding assay as claimed in any preceding claim 5 to 6, wherein the transglutaminase antigen is a recombinant fusion protein or fragment thereof.
8. Comparative protein binding assay as claimed in any preceding claim 5 to 7, wherein the binding assay is an immunoassay selected from RIA, EIA/ELISA, LiA and FiA.
9. Comparative protein binding assay as claimed in any preceding claim 5 to 8, wherein the binding assay is a sandwich-immunoassay selected from IRMA, IEAMA/EUA, ILMA (immunoluminescence assay) and IFMA (immuno-fluorescence assay).